

WHAT IS CLAIMED IS:

1. A power selection system for use with a reconfigurable circuit, comprising:

a monitoring circuit configured to monitor an operating characteristic associated with at least one node located within said reconfigurable circuit; and

a mode selection circuit coupled to said monitoring circuit and configured to select one of:

a normal power mode when said operating characteristic falls within a predetermined operating range of said reconfigurable circuit, and

an alternative power mode when said operating characteristic falls outside of said predetermined operating range of said reconfigurable circuit.

2. The power selection system as recited in Claim 1 wherein said monitoring circuit comprises a switching counter configured to monitor a number of switching transitions associated with said at least one node located within said reconfigurable circuit.

3. The power selection system as recited in Claim 2 wherein
said predetermined operating range comprises a threshold number of
switching transitions.

4. The power selection system as recited in Claim 3 wherein
said mode selection circuit is configured to select one of:

said normal power mode when said number of switching
transitions is less than or equal to said threshold number of
switching transitions, and

said alternative power mode when said number of switching
transitions is greater than said threshold number of switching
transitions.

5. The power selection system as recited in Claim 1 further
comprising a timing counter configured to track a period of
operation of said reconfigurable circuit.

6. The power selection system as recited in Claim 1 wherein
said alternative power mode is a low power mode.

7. The power selection system as recited in Claim 1 wherein
2 said reconfigurable circuit comprises a Pseudo Random Binary
3 Sequence (PRBS) generator.

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8. A method of operating a reconfigurable circuit,
2 comprising:

3 monitoring an operating characteristic associated with at
4 least one node located within said reconfigurable circuit; and
5 selecting one of:

6 a normal power mode when said operating characteristic
7 falls within a predetermined operating range of said
8 reconfigurable circuit, and

9 an alternative power mode when said operating
10 characteristic falls outside of said predetermined operating
11 range of said reconfigurable circuit.

9. The method as recited in Claim 8 wherein said monitoring
2 comprises monitoring a number of switching transitions associated
3 with said at least one node located within said reconfigurable
4 circuit.

10. The method as recited in Claim 9 wherein said
2 predetermined operating range comprises a threshold number of
3 switching transitions.

11. The method as recited in Claim 10 wherein said selecting
2 comprises selecting one of:

3 said normal power mode when said number of switching
4 transitions is less than or equal to said threshold number of
5 switching transitions, and

6 said alternative power mode when said number of switching
7 transitions is greater than said threshold number of switching
8 transitions.

12. The method as recited in Claim 8 further comprising
2 tracking a period of operation of said reconfigurable circuit.

13. The method as recited in Claim 8 wherein said
2 reconfigurable circuit comprises a Pseudo Random Binary Sequence
3 (PRBS) generator.

14. A reconfigurable circuit, comprising:

a monitored sub-circuit, including:

a delay element, associated with a node of said reconfigurable circuit, having a switch;

a multiplier interposed between said node and an output of said reconfigurable circuit; and

a power selection system, including:

a monitoring circuit that monitors an operating characteristic associated with said node, and

a mode selection circuit, coupled to said monitoring circuit, that selects one of:

a normal power mode when said operating characteristic falls within a predetermined operating range of said reconfigurable circuit, and

an alternative power mode when said operating characteristic falls outside of said predetermined operating range of said reconfigurable circuit.

15. The reconfigurable circuit as recited in Claim 14 wherein
2 said monitored sub-circuit comprises a plurality of delay elements,
3 associated with a respective node of said reconfigurable circuit,
4 having a corresponding switch and a plurality of multipliers
5 interposed between said one of said nodes and said output of said
6 reconfigurable circuit, said monitoring circuit monitoring an
7 operating characteristic associated with at least one of said
8 nodes.

16. The reconfigurable circuit as recited in Claim 14 wherein
said monitoring circuit comprises a switching counter that monitors
a number of switching transitions associated with said switch
associated with said node.

17. The reconfigurable circuit as recited in Claim 16 wherein
2 said predetermined operating range comprises a threshold number of
3 switching transitions.

18. The reconfigurable circuit as recited in Claim 17 wherein
2 said mode selection circuit selects one of:

3 said normal power mode when said number of switching
4 transitions is less than or equal to said threshold number of
5 switching transitions, and

6 said alternative power mode when said number of switching
7 transitions is greater than said threshold number of switching
8 transitions.

19. The reconfigurable circuit as recited in Claim 14 wherein
2 said power selection system further comprises a timing counter that
3 tracks a period of operation of said monitored sub-circuit.

20. The reconfigurable circuit as recited in Claim 14 wherein
2 said monitored sub-circuit is selected from the group consisting
3 of:

4 a Pseudo Random Binary Sequence (PRBS) generator, and
5 a filter circuit.